

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for separating mono-branched hydrocarbons from a mixture of hydrocarbons comprising:

- bringing said mixture into contact with one adsorbent having a selectivity order from mono-branched to linear further to multi-branched hydrocarbons,
- preferentially and selectively adsorbing said mono-branched hydrocarbons by said adsorbent, and
- desorbing said mono-branched hydrocarbons from said adsorbent, thereby ~~allowing to selectively separate~~ separating said mono-branched hydrocarbons.

2. (Currently amended) ~~Method~~ The method according to claim 1 comprising the step of bringing said mixture into contact with only one adsorbent.

3. (Currently amended) ~~Method~~ A method for separating mixtures of hydrocarbons into fractions of linear, mono- branched and multi-branched hydrocarbons ~~comprises comprising~~ the steps of:

- a. bringing said mixture into contact with only one adsorbent, said adsorbent having a selectivity order from mono-branched to linear further to multi- branched hydrocarbons,
- b. separating a stream enriched in multi-branched hydrocarbons from said adsorbent, thereby ~~allowing to separate~~ separating said multi-branched hydrocarbons,
- c. desorbing the linear hydrocarbons from said adsorbent, thereby ~~allowing to separate~~ separating said linear hydrocarbons, and
- d. desorbing said mono-branched hydrocarbons from said adsorbent, thereby ~~allowing to separate~~ separating said mono-branched hydrocarbons.

4. (Currently amended) ~~Method~~ The method according to ~~any of claims 1 to 3~~ claim 1, wherein said hydrocarbons are alkanes.

5. (Currently amended) ~~Method~~ The method according to ~~any of claims 1 to 4~~ claim 1, ~~whereby~~ wherein said adsorbent is a zeolitic adsorbent.

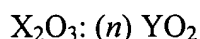
Int'l Appl. No. : PCT/EP2004/009216

Int'l filing date : August 17, 2004

6. (Currently amended) ~~Method~~ The method according to ~~any of claims 1 to 5~~ claim 1, ~~whereby~~ wherein said adsorbent is a zeolitic adsorbent having cavities of which the dimensions are larger than the pore openings giving access to ~~these said~~ cavities, these cavities having a smallest diameter of at least 4.5 Angström and a largest diameter of at least 10 Angström.

7. (Currently amended) ~~Method~~ The method according to claim 6, ~~whereby~~ wherein said cavities have a smallest diameter between 4.5 and 15 Angström, and a largest diameter between 10 and 25 Angström.

8. (Currently amended) ~~Method~~ The method according to ~~any of claims 1-7~~ claim 5, ~~whereby~~ wherein said zeolitic adsorbent comprises the molar relationship



wherein n is at least 2, X is a trivalent element and Y is a tetravalent element.

9. (Currently amended) ~~Method~~ The method according to claim 8, ~~whereby~~ wherein n is at least 2, wherein X is selected from the group ~~comprising~~ consisting of aluminium aluminum, iron, gallium and boron and wherein Y is silicon.

10. (Currently amended) ~~Method~~ The method according to claim 8 ~~or 9~~, ~~whereby~~ wherein n is at least 10, wherein X is aluminium aluminum, and wherein Y is silicon.

11. (Currently amended) ~~Method~~ The method according to ~~any of claims 1-10~~ claim 5, ~~whereby~~ wherein said zeolitic adsorbent is MCM- 22.

12. (Currently amended) ~~Method~~ The method according to ~~any of claims 1-11~~ claim 5, wherein said zeolitic adsorbent has a pore occupancy comprised between 0.01 and 100%.

Int'l Appl. No. : PCT/EP2004/009216
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13. (Currently amended) ~~Method~~The method according to ~~any of claims 1-12,~~claim 4 ~~whereby~~wherein said mixture of alkanes is a mixture of selected from linear, mono-branched and multi-branched alkanes.

14. (Currently amended) ~~Method~~The method according to claim 13, wherein said mixture comprises 0.1-99.9% linear, 0.1-99.9% mono-branched and 0.1-90% multi-branched alkanes.

15. (Currently amended) ~~Method~~The method according to ~~any of claims 13-14~~claim 13, ~~whereby~~wherein said mixture of alkanes is a mixture of linear and mono-branched alkanes in a ratio comprised between 1: 100 to 100: 1.

16. (Currently amended) ~~Method~~The method according to claim 15, wherein said mixture comprises mono-branched and linear alkanes in a ratio of 1: 1.

17. (Currently amended) ~~Method~~The method according to ~~any of claims 1-16~~claim 1, wherein said separation is based on entropic effects.

18. (Currently amended) ~~Use of only one adsorbent~~A method for separating mono-branched hydrocarbons from a mixture of hydrocarbons which comprises bringing said mixture of hydrocarbons into contact with only one adsorbent.

19. (Currently amended) ~~Use of one adsorbent~~The method according to claim 18 ~~for preferentially adsorbing~~wherein mono- branched hydrocarbons from said mixture are preferentially adsorbed.

20. (Currently amended) ~~Use~~The method according to claim 18 ~~or 19~~, wherein said adsorbent is ~~an adsorbent as defined in any of claims 5-12~~a zeolitic adsorbent.

Int'l Appl. No. : PCT/EP2004/009216

Int'l filing date : August 17, 2004

21. (Currently amended) ~~Use~~ The method according to ~~any of claims 18-20~~ claim 18, wherein said mixture is ~~a mixture as defined in any of claims 13-16~~ selected from linear, mono-branched, and multi-branched alkanes.

22. (Currently amended) ~~Use~~ The method according to ~~any of claims 18-21~~ claim 18, wherein said separation is based on entropic effects.

23. (Currently amended) ~~Use of MCM-22 as a zeolite having a catalytic and an adsorbent activity~~ A method for separating mixtures of non-aromatic hydrocarbons into fractions of linear, mono- branched and multi-branched hydrocarbons which comprises contacting said mixture with MCM-22 as a zeolite having a catalytic and an adsorbent activity.